CLAIMS

1. A method of filtering a plurality of samples, comprising:

adapting a plurality of filter coefficients; and

filtering a plurality of samples by applying one of the filter coefficients to a parameter, applying each remaining filter coefficient to one of the samples, and combining the parameter and the samples;

wherein the adaptation of the filter coefficients is a function of the combined parameter and samples.

2. The method of claim 1 wherein the filtering of samples multiplying said one of the filter coefficients with the parameter, multiplying each of the remaining filter coefficients with its respective sample, and summing the parameter and the samples. .

3. The method of claim 1 wherein the adaptation of the filter coefficients comprising using a least square algorithm.

4. The method of claim 3 wherein the least square algorithm comprises a least mean square (LMS) algorithm.

5. The method of claim 1 wherein the parameter comprises a fixed value.

6. The method of claim 5 wherein the samples comprise an average value, and wherein the fixed value of the parameter is substantially equal to the average value of the samples.

7. The method of claim 1 further comprising monitoring a DC bias of the samples, and reducing the DC bias if it exceeds a threshold.

8. The method of claim 1 further comprising notch filtering the samples.

9. The method of claim 8 wherein the notch is substantially at DC.

10. The method of claim 1 wherein the adaptation of the filter coefficients is further a function of a plurality of locally generated samples.

11. The method of claim 10 wherein the adaptation of the filter coefficients further comprises applying a minimum mean square error algorithm to the filtered samples and the locally generated samples.

12. A receiver, comprising:

an analog-to-digital converter configured to sample an analog signal to produce a plurality of samples; and

a filter having a coefficient generator configured to adapt a plurality of filter coefficients, the filter being configured to apply one of the filter coefficients to a parameter, apply each of the remaining filter coefficients to one of the samples, and combine the parameter and the samples, the adaptation of the filter coefficients being a function of the combined parameter and samples.

13. The receiver of claim 12 wherein the filter further comprises a first multiplier configured to multiply said one of the filter coefficients with the parameter, a second multiplier configured to multiply each of the remaining filter coefficients with its respective sample, and an adder configured to sum the parameter and the samples. .

14. The receiver of claim 13 wherein the filter further comprises a delay element configured to serially receive the samples from the analog-to-digital converter, and wherein the second multiplier is further configured to multiply each of the remaining filter coefficients with its respective sample from the delay element.

15. The receiver of claim 12 wherein the coefficient generator is further configured to adapt the filter coefficients using a least square algorithm.

16. The receiver of claim 15 wherein the least square algorithm comprises a least mean square (LMS) algorithm.

17. The receiver of claim 12 wherein the parameter comprises a fixed value.

18. The receiver of claim 17 wherein the samples comprise an average value, and wherein the fixed value of the parameter is substantially equal to the average value of the samples.

19. The receiver of claim 12 further comprising an outer correction loop configured to monitoring a DC bias of the samples generated by the analog-to-digital converter, and reducing the DC bias if it exceeds a threshold.

20. The receiver of claim 12 further comprising a notch filter configured to filter the samples.

21. The receiver of claim 12 further comprising a notch filter configured to filter the samples.

22. The receiver of claim 21 wherein the notch filter is further configured with a notch substantially at DC.

23. The receiver of claim 12 wherein the receiver further comprises a sample generator configured to generate a plurality of locally generated samples, and wherein the coefficient generator is further configured to adapt the filter coefficient as a function of the locally generated samples.

24. The method of claim 23 wherein the coefficient generator is further configured to adapt the filter coefficients by applying a minimum mean square error algorithm to the filtered samples and the locally generated samples.

25. A filter, comprising:

a delay element configured to serially receive a plurality of samples;

a coefficient generator configured to adapt a plurality of coefficients;

a first multiplier configured to multiply said one of the filter coefficients with the parameter;

a second multiplier configured to multiply each remaining filter coefficient with one of the samples from the delay element; and

an adder configured to sum the parameter and the samples;

wherein the adaptation of the filter coefficients is a function of the summed parameter and samples.

26. The filter of claim 25 wherein the coefficient generator is further configured to adapt the filter coefficients using a least square algorithm.

27. The filter of claim 26 wherein the least square algorithm comprises a least mean square (LMS) algorithm.

28. The filter of claim 25 wherein the parameter comprises a fixed value.

29. The filter of claim 28 wherein the samples comprise an average value, and wherein the fixed value of the parameter is substantially equal to the average value of the samples.

30. The filter of claim 25 wherein the coefficient generator is further configured to receiver a plurality of locally generated samples, and adapt the filter coefficient as a function of the locally generated samples.

31. The filter of claim 30 wherein the coefficient generator is further configured to adapt the filter coefficients by applying a minimum mean square error algorithm to the filtered samples and the locally generated samples.

32. Computer-readable media embodying a program of instructions executable by a computer program to perform a method of adapting filter coefficients, the method comprising:

adapting a plurality of filter coefficients; and

filtering a plurality of samples by applying one of the filter coefficients to a parameter, applying each remaining filter coefficient to one of the samples, and combining the parameter and the samples;

wherein the adaptation of the filter coefficients is a function of the combined parameter and samples.

33. The computer-readable media of claim 32 wherein the filtering of samples multiplying said one of the filter coefficients with the parameter,

multiplying each of the remaining filter coefficients with its respective sample, and summing the parameter and the samples. .

34. The computer-readable media of claim 32 wherein the adaptation of the filter coefficients comprising using a least square algorithm.

35. The computer-readable media of claim 34 wherein the least square algorithm comprises a least mean square (LMS) algorithm.

36. The computer-readable media of claim 32 wherein the parameter comprises a fixed value.

37. The computer-readable media of claim 36 wherein the samples comprise an average value, and wherein the fixed value of the parameter is substantially equal to the average value of the samples.

38. The computer-readable media of claim 32 wherein the adaptation of the filter coefficients is further a function of a plurality of locally generated samples.

39. The computer-readable media of claim 38 wherein the adaptation of the filter coefficients further comprises applying a minimum mean square error algorithm to the filtered samples and the locally generated samples.

40. A filter, comprising:

means for adapting a plurality of filter coefficients; and

means for filtering a plurality of samples by applying one of the filter coefficients to a parameter, applying each of the remaining filter coefficients to one of the samples and combining the parameter and the samples;

wherein the adaptation of the filter coefficients is a function of the combined parameter and samples.

41. The filter of claim 40 wherein the means for filtering the samples comprises means for multiplying said one of the filter coefficients with the parameter, means for multiplying each of the remaining filter coefficients with its respective sample, and means for summing the parameter and the samples.

42. The filter of claim 41 wherein the means for filtering the samples further comprises means for serially receiving the samples.

43. The filter of claim 40 wherein the means for adapting the filter coefficients uses a least square algorithm.

44. The filter of claim 43 wherein the least square algorithm comprises a least mean square (LMS) algorithm.

45. The filter of claim 40 wherein the parameter comprises a fixed value.

46. The filter of claim 45 wherein the samples comprise an average value, and wherein the fixed value of the parameter is substantially equal to the average value of the samples.

47. The filter of claim 40 wherein the adaptation of the filter coefficients are further a function of the locally generated samples.

48. The filter of claim 47 wherein the adaptation of the filter coefficients are performed by applying a minimum mean square error algorithm to the filtered samples and the locally generated samples.